Abstract

A surface of a phosphor particle is coated with a coating member made of a material that is different from the phosphor in chemical vapor-phase reaction. The coating member is made of any of metal oxide, metal nitride and metal oxynitride. The coating member coats the surface of the phosphor with a substantially smooth film, or is formed such that a large number of fine particles, which are relatively smaller than the phosphor particle, aggregate to coat the whole surface of the phosphor particle. The coating member contains at least one metallic element selected from the group including Al, Si, and rare earth elements. In addition, the phosphor is a transparent water-soluble phosphor and is an alkaline-earth silicon-nitride phosphor, an alkaline-earth silicon oxynitride phosphor, or the like. A BET value of the coated phosphor is 1.0 to 10 times the BET value before coating. The average thickness of the coating is 10 nm to 500 nm.